

ABSTRACT

The present invention aims at providing a visual display which is useful in roughly understanding the state of groupings and changes, by comparing expression data of genes from two experiments based on expression data of one sample common to both experiments.

In order to compare data of expression levels obtained from different experiments each using two types of samples, three types of expression levels are displayed in three-dimension as mediated by the data of the common sample used in both experiments. Specifically, expression level data for Samples A and B and expression level data for Samples A and C are combined and converted into single three-dimensional data and displayed as points inside a sphere. Alternatively, expression states of each gene to Samples A, B and C are mapped on a sphere with respect to a ratio between Sample A and Sample B and a ratio between Samples A and C, and displayed as distribution on the surface of the sphere. A clustering analysis is performed based on the distributed points inside or on the sphere, to visually understand the expression state of genes for the three types of samples. In addition, the expression level data displayed as points inside or on the sphere are linked as a line or a curve for each gene or for each gene group resulting from the clustering analysis, to visually understand the changes of expression states with time.